



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/822,836	04/02/2001	Jin-soo Kim	Q62697	8473

7590 03/08/2004

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
WASHINGTON, DC 20037-3213

EXAMINER
----------

DANG, KHANH NMN

ART UNIT	PAPER NUMBER
----------	--------------

2111

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/822,836

Applicant(s)

KIM, JIN-SOO

Examiner

Khanh Dang

Art Unit

2111

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-18 are directed to an apparatus. However, the essential structural cooperative relationships between elements recited in the claims have been omitted, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. As amended, claims 1 and 10 are in part

directed to a "priority mapper" comprising a "bus request receiver," "a priority level extractor," "a priority output unit," and "a master device identifier" whereas in the originally filed specification, at least page 3, line 8 to page 4, line 2, the "priority mapper" comprising a "master device identifier" is only a part of a combination of an arbiter. It is clear from the specification that the "priority mapper" is NOT a combination of "bus request receiver," "a priority level extractor," "a priority output unit," and "a master device identifier."

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakakibara et al.

At the outset, it is noted that similar claims will be grouped together to avoid repetition in explanation.

As broadly drafted, these claims do not define any structure that differs from Sakakibara et al. With regard to claim 1, 2, 10, and 11, Sakakibara et al. discloses an

arbiter comprising: a bus request receiver (including request registers, for example) connected to a plurality of master devices (requesters) for receiving bus request inputs from a plurality of master devices (requesters in Sakakibara et al.); a priority level extractor for outputting priority level signals indicating predesignated priority levels corresponding to the plurality of master devices (Sakakibara et al., as in any system involving arbitration, each master or requester must carry a priority ID indicating a predetermined priority scheme along with other data), if the bus requests are input through the bus request receiver (including request registers), and generating a priority level summation signal indicating all priority levels of the bus requests based on the output priority level signals (all masters or requesters each having its own level of priority must be ready before arbitration); a priority output unit for outputting priority levels in order of decreasing priority based on the priority level summation signal generated by the priority level extractor (a master or requester with highest level of priority ready first in a queue); a priority mapper comprising a master device identifier output unit (a decoder is used in Sakakibara et al.) for extracting identifiers (priority bits) of the plurality of master devices (requesters) submitting bus requests based on the priority level signals and outputting the extracted master device identifiers (priority bits) based on the order of the priority levels output from the priority output unit; and an arbitration circuit (including a priority logic in Sakakibara et al., for example) for granting access to a bus, to one of the plurality of master devices (requesters) corresponding to the identifier (priority bits) output from the priority mapper. With regard to claims 3, 4, 12, and 13, the bus request receiver comprises a plurality of input ports (QUE0-3, for

example) connected to the plurality of master devices (requesters) for receiving bus request inputs from the plurality of master devices, and a plurality of registers (also registers in Sakakibara et al.) provided in the plurality of input ports for storing priority levels (a predetermined priority level assigned to each master or requester) designated for the plurality of input ports (see also explanation regarding claim 1 above).

### ***Response to Arguments***

Applicants' arguments filed 12/17/2003 have been fully considered but they are not persuasive.

At the outset, Applicants are reminded that claims subject to examination will be given their broadest reasonable interpretation consistent with the specification. *In re Morris*, 127 F.3d 1048, 1054-55 (Fed. Cir. 1997). In fact, the "examiner has the duty of police claim language by giving it the broadest reasonable interpretation." *Springs Window Fashions LP v. Novo Industries, L.P.*, 65 USPQ2d 1862, 1830, (Fed. Cir. 2003). Applicants are also reminded that claimed subject matter not the specification, is the measure of the invention. Disclosure contained in the specification cannot be read into the claims for the purpose of avoiding the prior art. *In re Sporck*, 55 CCPA 743, 386 F.2d, 155 USPQ 687 (1986).

With this in mind, the discussion will focus on how the terms and relationships thereof in the claims are met by the references. Response to any limitations that are not in the claims or any arguments that are irrelevant and/or do not relate to any specific claim language will not be warranted.

**The 35 USC 112, 2<sup>nd</sup> Paragraph Rejection:**

Applicants' amendment to the claims 1 and 10 has not addressed the issue involved 35 USC 112, 2<sup>nd</sup> paragraph, which was clearly pointed out in the previous Office Action. In fact, the basis of the rejection of claims 1-18 was clearly set forth in the previous Office Action. In addition, MPEP 2172.01 was cited for support of the rejection. Note also that all dependent claims (of independent claims 1 and 10) were rejected for the same reason, since they were dependent from rejected claims. MPEP 2172.01 clearly states that "a claim which fails to interrelate (emphasis added) essential elements of the invention as defined by applicant(s) in the specification may be rejected under 35 U.S.C. 112, second paragraph, for failure to point out and distinctly claim the invention. See *In re Venezia*, 530 F.2d 956, 189 USPQ 149 (CCPA 1976); *In re Collier*, 397 F.2d 1003, 158 USPQ 266 (CCPA 1968)." In the instant case, It is clear that various recited elements recited in claims 1-19 function simultaneously, are directly functionally related, directly intercooperate, and/or serve independent purposes. In an effort to advance prosecution of this application, it is suggested that this rejection may be overcome by providing terms such as –connected—or – operatively connected – to the claims for providing essential structural cooperative relationships between elements in the claims.

**The Sakakibara 102 Rejection:**

With regard to claim 1 (with claims 3-4 and 10-13 stand or fall together), Applicants argued that Sakakibara et al. do not "disclose a priority mapper comprising a master device identifier unit, a bus request receiver, a priority level extractor, and a priority output unit." In response to Applicants' argument, the "priority mapper", as explained above, does not comprise a bus request receiver, a priority level extractor, and a priority output unit. In fact, such an argument is not even supported by the originally filed specification. In any event, it is clear that Sakakibara et al. disclose a bus request receiver (including request registers, for example) connected to a plurality of master devices (requesters) for receiving bus request inputs from a plurality of master devices (requesters in Sakakibara et al.); a priority level extractor (Sakakibara et al., as in any system involving arbitration, each master or requester must carry a priority ID indicating a predetermined priority scheme along with other data), a priority output unit (a master or requester with highest level of priority ready first in a queue); a priority mapper comprising a master device identifier output unit (a decoder is used in Sakakibara et al.). Applicants also argued that Sakakibara et al. do not disclose "a priority level extractor for outputting priority level signals indicating predesignated priority levels corresponding to the plurality of master devices if the bus requests are input through the bus request receiver." Contrary to Applicants' argument, Sakakibara et al., as in any system involving arbitration, each master or requester must carry a priority ID indicating a predetermined priority scheme along with other data. See particularly "ID numbers" and description thereof in Sakakibara et al. Clearly, these



priority indicator/scheme can only be represented by "priority level signals." When access to a bus is requested from a plurality of master devices, arbitration must be performed based on priority values of the devices. A device with highest priority value will be granted access to the bus. It is also clear that for an arbiter to judge, priority level signals must be outputted to the request registers for arbitration. Applicants further argued that Sakakibara et al. do not "disclose a priority level extractor for ... generating a priority level summation signal indicating all priority levels of the bus requests based on the output priority level signals." Contrary to Applicants' argument, in Sakakibara et al., as in any system involving arbitration, all masters or requesters each having its own level of priority must be ready before arbitration. In another word, after the priority level signal of each master device is outputted, all priority levels corresponding to all master devices requesting access to the bus based on a particular arbitration scheme must be accounted for and represented by a signal input to the arbitration logic.

***Allowable Subject Matter***

Claims 5-9 and 14-18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first and second paragraphs, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication should be directed to Khanh Dang at telephone number 703-308-0211.



Khanh Dang  
Primary Examiner